

## **REMARKS**

The present response amends claims 2, 4-6, 18, 19, 27-29, 33, 36-38, and 40 requests reconsideration of the claims.

Claim 18 is amended to be in independent, allowable form and claim 19 is amended to depend from claim 18.

Claim 36 is amended to be in independent, allowable form and claims 37 and 38 are amended to depend from claim 36.

Claims 1-17, 20-35, 39, 41, 43 and 51-52 are rejected under 35 USC § 103(a) as allegedly being unpatentable over Ring et al. [20010005735] in combination with [Ring et al. [6531524] and Sukata. This rejection is respectfully traversed.

The Examiner argues that it would be obvious to use the fluidity agents such as aluminium oxides and hydroxides that improve a powder coating and to use such a powder in the toner composition to develop electrostatic images. So, basically, the Examiner argues that powder coatings and toners are more or less the same and that an additive suitable for powder coatings is also suitable for toners. But this is not correct.

First of all, toners and powder coatings are applied in a different way and, hence, they require different properties. As a result, the purpose of the post-blended additive is completely different.

### **Powder coatings**

Powder coatings are generally applied by an electrostatic spray gun or using an electrostatic fluidized bed. As explained by Ring (US 2001/0005735, par. 0003), in this process powder coating particles are charged in the spray gun (or fluidized bed) and adhere to an earthed substrate.

For spray application the powders must be fluid and mobile enough to be able to pump down significant lengths of transfer tubing to the spray gun and for fluidised bed application the powder must be sufficiently fluid to generate a powder cloud above the fluidised bed for application.

If the powder contains highly charged particles of positive or negative signs these will "stick together" and reduce fluidity. The post additive generates fluidity by reducing the charge and reducing the occurrence of highly charged positive or negative particles. The minimum charge condition for a powder is a narrow distribution symmetrical about zero.

The effect of the post-blended additive comprising aluminium oxide and aluminium hydroxide on powder coatings is shown below in Figs. 1a and 1b: Fig. 1a shows the charge distribution of a powder coating without the post-blended additive. You can see that the distribution is relatively broad and contains a high number of negative particles. Because the distribution is biased towards the negative side it contains a larger number of higher charged negative particles. Upon addition of the post-blended additive, the charge distribution narrows and centralizes symmetrically around zero. Hence, the post-blended additive, added to a powder coating, promotes a more even charge distribution (i.e., about as many positively as negatively charged particles) and reduction of the number of highly charged positive and negative particles.

Fig. 1a

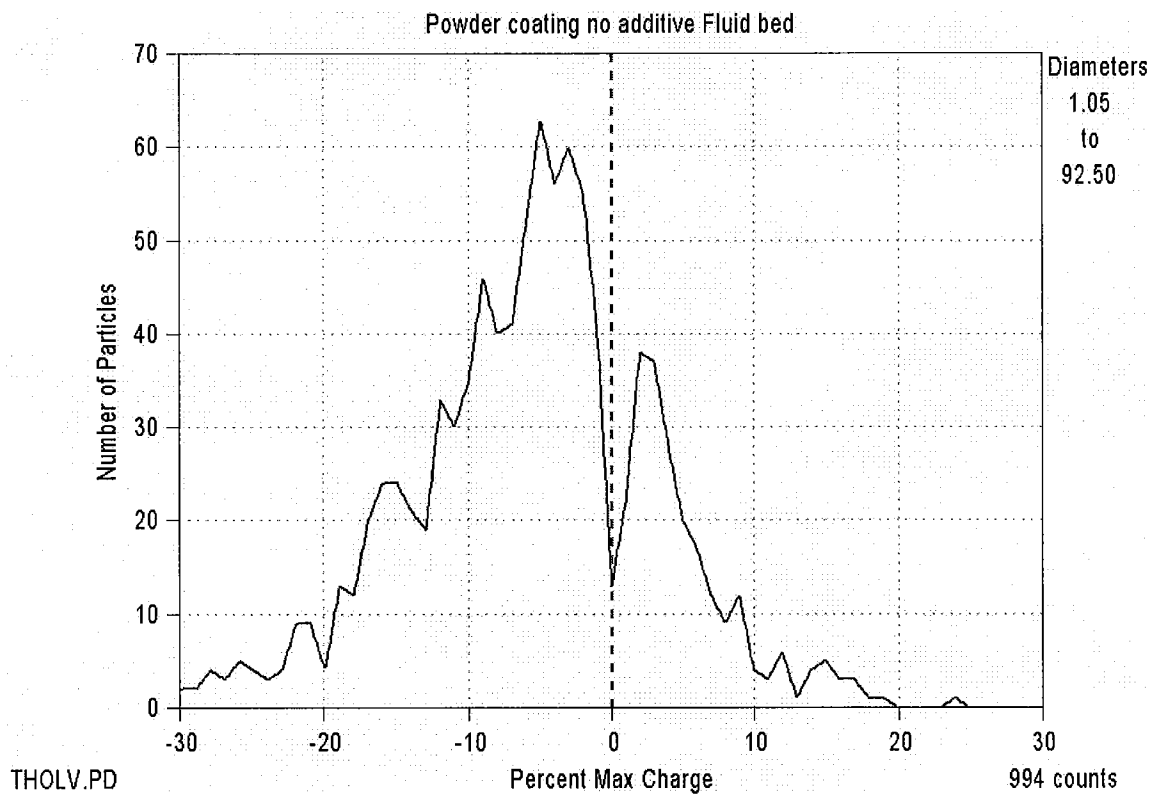
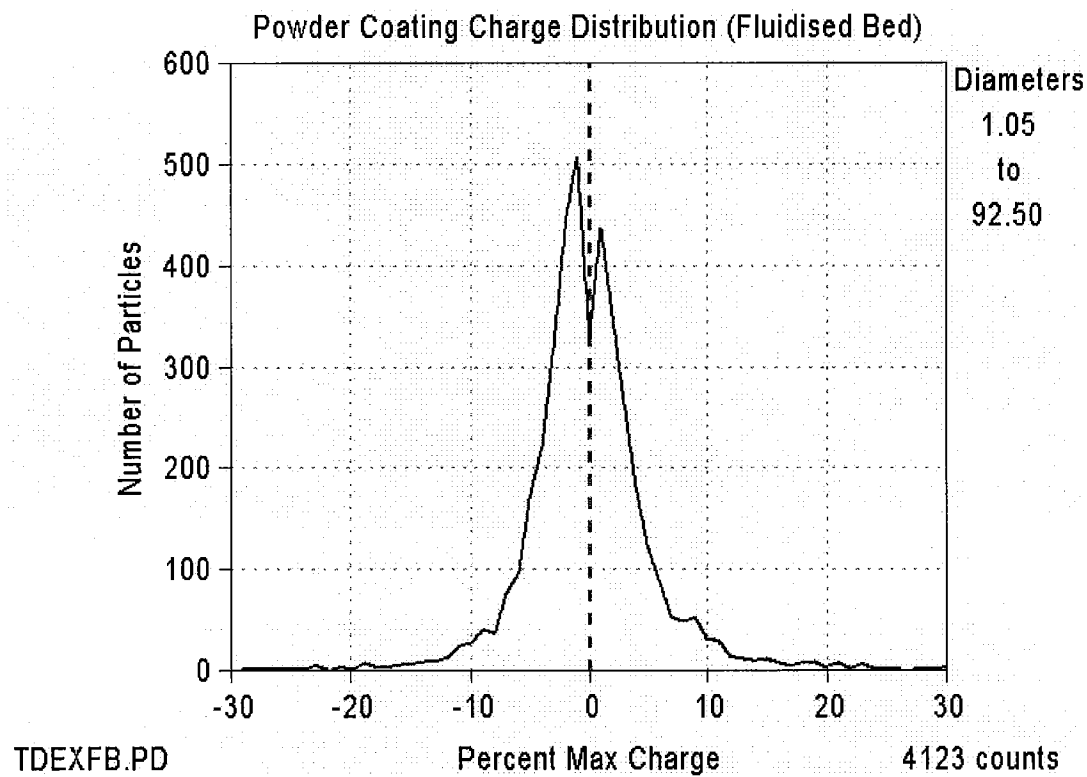


Fig. 1b



## Toners

Toners, on the other hand, are generally applied using electrostatic copying and printing (see the specification page 1, II.4-6). This process involves the following steps:

- (i) an electrostatic latent image is formed on a light-sensitive body,
- (ii) the electrostatic latent image is developed by letting the toner adhere under electrostatic force to the light-sensitive body,
- (iii) the toner on the light-sensitive body is then transferred onto a transfer sheet, and
- (iv) the toner is finally applied to a substrate (e.g., paper) by pressing the transfer sheet to the substrate.

The electrostatic latent image on a light-sensitive body in step (i) has either a positive or a negative charge. So, in order to let the toner particles adhere to the light sensitive body following the image, the toner particles need to have the opposite charge. To explain this further: if the electrostatic image has a negative charge, good resolution will only be obtained if (nearly) all the toner particles have a positive charge. Any negatively charged toner particles would not adhere to the negatively charged image but would print at places where they are not desired.

So, a toner requires a monopolar charge, i.e., either a negative or a positive charge distribution (see also page 2, II. 4-6, of the specification).

A monopolar charge results from the addition of the post-blended particulate additive comprising aluminium oxide and aluminium hydroxide to a toner composition, as shown in Fig. 2b, below. Fig.2a (below) shows the charge distribution of a toner. Most of the toner particles are positively charged. Fig. 2b (below) shows the charge distribution of the same toner, post-blended with the additive. Addition of this post-blended additive results in a different charge, a higher charge, and a more monopolar distribution, i.e., fewer particles with an opposite charge.

Fig. 2a

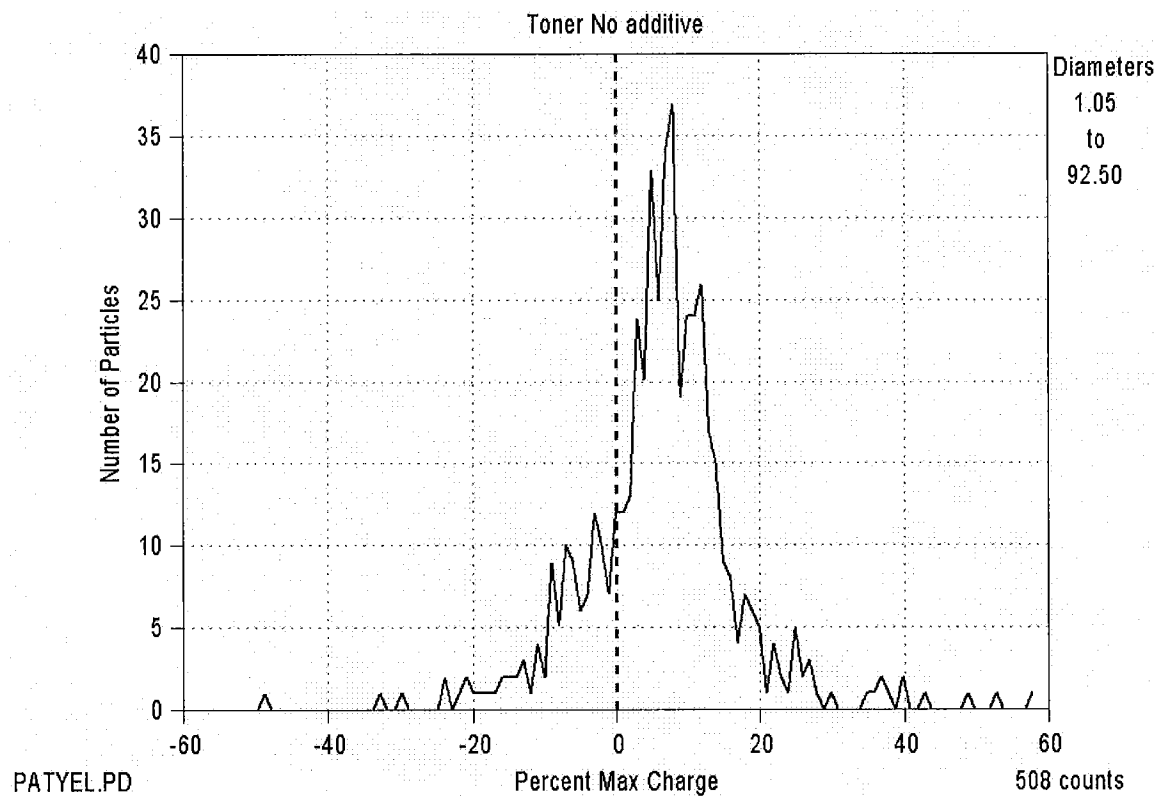
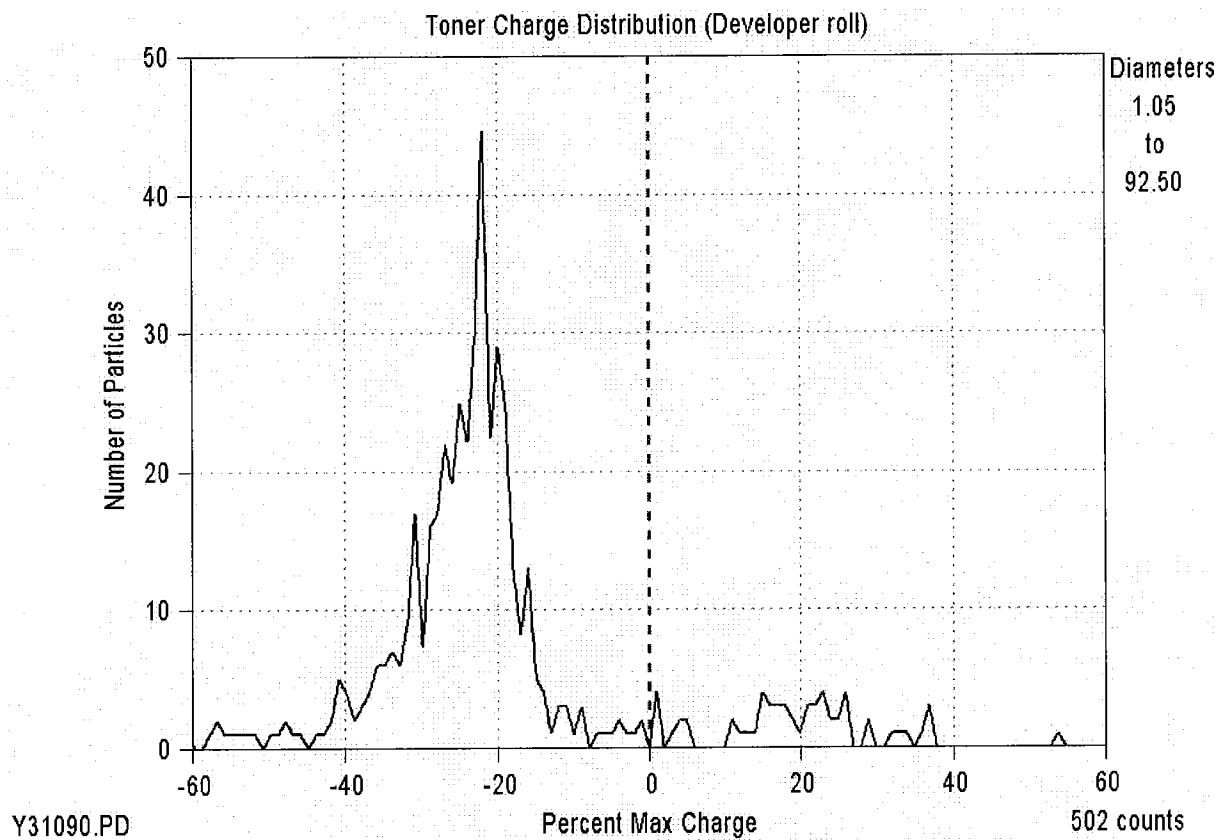


Fig. 2b



### Conclusion

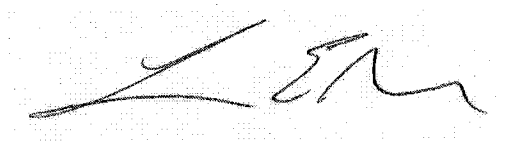
Based on the above discussion, it would not be obvious to use the fluidity agents such as aluminium oxides and hydroxides that improve a powder coating in a toner composition. There is simply no expectation that the additives used in a powder coating to yield an **even** charge distribution (see Fig. 1b) would also be useful in a toner composition where an even charge distribution would be detrimental. A toner requires an **uneven** charge distribution (i.e., either positive or negative) and one would not expect the same post-additive to be able to achieve that.

Hence, the claimed subject-matter is not obvious in view of Ring in combination with Ring and Sukata.

New claims 27-46, 51 and 52 are allowable for the same reasons the claims from which they depend are allowable, as well as for the additional recitations in these claims.

Further, new claims 47-50 are allowable for the reasons detailed above, as well as for the additional recitations in these claims.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'L E Parker', is centered below the text 'Respectfully submitted,'.

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